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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,579

12/04/2003

Wolfgang Platzek

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5094

7590

02/01/2005

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EXAMINER

ROGERS, DAVID A

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,579

Applicant(s)

PLATZEK ET AL.

Examiner

David A. Rogers

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 4,13 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20031204</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 6, 9, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent 5,253,513 to Van Arsdale *et al.*

Van Arsdale *et al.* discloses a rheometer (reference item 10) comprising an upper measuring part (reference item 7), a lower measuring part (reference item 1) that carries a sample. The lower measuring part is a temperature-controlled plate such as a thermoelectric plate. This plate is heated by the application of a voltage. In order for the thermoelectric plate to be heated it would need to have electrical conductors disposed on its surface to ensure electrical connectivity.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 2, 3, 5, 6, 9, 10, 11, and 14 are rejected under 35

U.S.C. 103(a) as being unpatentable over United States Patent 6,571,610 to Raffer in view of United States Patent 5,253,513 Van Arsdale *et al.*

Raffer teaches a rheometer comprising an upper measuring part (reference item 4), a lower measuring part (reference item 5), a support part in the form of a plate-shaped, voltage-powered heating element (reference item 20) for heating a sample (reference item 12). The upper measuring part rotates relative to the lower measuring part through the use of a motor (reference item 1). The heating element is coupled to a cooling device (reference item 21) on a side that faces away from the sample. Raffer does not teach a support that both holds the sample and is heated.

It is well established that the elimination of an element and its function is an obvious modification if the function of the element is not desired. See MPEP 2144.04.

Ex parte Wu, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) (Claims at issue were directed to a method for inhibiting corrosion on metal surfaces using a composition consisting of epoxy resin, petroleum sulfonate, and hydrocarbon diluent. The claims were rejected over a primary reference which disclosed an anticorrosion composition of epoxy resin, hydrocarbon diluent, and polybasic acid salts wherein said salts were taught to be beneficial when employed in a freshwater environment, in view of secondary references which clearly suggested the addition of petroleum sulfonate to corrosion inhibiting compositions. The Board affirmed the rejection, holding that it would have been obvious to omit the polybasic acid salts of the primary reference where the function attributed to such salt is not desired or required, such as in compositions for providing corrosion resistance in environments which do not encounter fresh water.). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.); and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient).

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In the instant application the elimination of the lower plate (reference item 5) of Raffer would allow for direct heating of the sample by allowing it to be placed on the heating element. The heating element is disclosed by Raffer as being a Peltier element, which is known in the art to be an excellent heating/cooling element. This type of configuration is taught by Van Arsdale *et al.* See paragraph 2 above. In Van Arsdale *et al.* the heating plate is a thermoelectric heater. Office notice is hereby taken that Peltier elements, such as that taught by Raffer, are thermoelectric heaters.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Raffer with the teachings of Van Arsdale *et al.* in order to provide a rheometer comprising a support plate for the sample that is also heated by a voltage.

5. Claims 1, 2, 3, 5, 6-9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,905,196 to Parshall in view of "Center-Hole and Round Modules" to TE Technologies, Inc. (hereinafter referred to as TETech), United States Patent 4,884,437 to Constant *et al.*, and United States Patent 5,253,513 to Van Arsdale *et al.*

Parshall teaches a rotational rheometer (reference item 10) comprising upper cone measuring element (reference item 20), a lower plate measuring element (reference item 18), and a sample (reference item 36) disposed between the cone and plate. The lower plate has a center hole with a clear/transparent lens (reference item 22). A temperature sensor (reference item 12) is used to

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monitor the sample through the lens. Office notice is taken that infrared cameras are well known in the art to be accurate temperature sensors. The lens would also allow for a standard film/digital camera to view the sample under test. See Constant *et al.* for a specific teaching of using a camera to view a sample being testing in a rheometer.

Parshall does not teach the use of a heating element that supports the sample. TETech teaches that it is well known to design and fabricate thermoelectric elements with center holes. As discussed above, and as shown in TETech, the thermoelectric element is in the form of a Peltier element.

Removing the lower plate measuring element of Parshall and replacing it with a thermoelectric element with a center hole (as shown by TETech) would allow the sample to be heated in order that the effects of various temperatures on the sample can be monitored. As discussed above, Van Arsdale *et al.* teaches a rheometer with the direct heating of a sample using a thermoelectric element.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Parshall with the teachings of TETech and Van Arsdale *et al.* in order to provide a rheometer with a heated lower surface and transparent region for viewing the sample using a camera.

6. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parshall in view of TETech and Van Arsdale *et al.* as applied to claim 1 above, and further in view of United States Patent 6,571,610 to Raffer.

Parshall in view of TETech and Van Arsdale *et al.* teaches a rotational rheometer comprising a lower heated measuring plate that holds the sample. The lower plate has a transparent center that can be used to view the sample using means such as an infrared camera. Parshall in view of TETech and Van Arsdale *et al.* does not teach the use of a cooling device.

Raffer teaches a rheometer comprising an upper measuring part (reference item 4), a lower measuring part (reference item 5), a support part in the form of a plate-shaped, voltage-powered heating element (reference item 20) for heating a sample (reference item 12). The upper measuring part is turnable relative to the lower measuring part through the use of a motor (reference item 1). The heating element is coupled to a cooling device (reference item 21) on a side that faces away from the sample. Raffer teaches that this configuration allows for the prevention of undesirable temperature gradients inside the sample. Adapting the cooling device of Raffer to have a center hole would have been obvious in view of the need to avoid the temperature gradients and to still utilize the lens of Parshall.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Parshall in view of TETech and Van Arsdale *et al.* with the teachings of Parshall in order to couple a cooling device with a hole onto the lower surface of the thermoelectric heater on a rheometer.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Arsdale *et al.* as applied to claim 1 above, and further in view of "AR 2000 Accessories" to TA Instruments.

Van Arsdale *et al.* discloses a rheometer (reference item 10) comprising an upper measuring part (reference item 7), a lower measuring part (reference item 1) that carries a sample. The lower measuring part is a temperature-controlled plate such as a thermoelectric plate. This plate is heated by the application of a voltage. In order for the thermoelectric plate to be heated it would need to have electrical conductors disposed on its surface to ensure electrical connectivity. Van Arsdale *et al.* does not teach the use of a heated enclosure.

TA Instruments teaches a rheometer with an environmental test chamber that generally surrounds the rheometer test section. The test chamber has a conductive coil imbedded to provide the temperature change. As is known from Raffer it is important to avoid temperature gradients in the sample.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Van Arsdale *et al.* with the teachings of TA Instruments in order to provide a test chamber surrounding the rheometer test area for ensuring a controlled sample temperature.

Allowable Subject Matter

8. Claims 4, 13, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone


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number is (571) 272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dar
26 January 2005


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